

Amendments to the Claims:

Please amend claims 1 and 16 as follows.

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of claims:

1. (Currently Amended) A method of manufacturing a capacitor of a semiconductor device, the method comprising:

forming a first electrode on a semiconductor substrate;

depositing a first dielectric layer on the first electrode;

curing the first dielectric layer in an atmosphere containing oxygen;

depositing a second dielectric layer on the cured first dielectric layer using only a source gas without a reactant gas, wherein depositing the second dielectric layer includes introducing the semiconductor substrate into a deposition chamber, supplying only a source gas without a reactant gas to the deposition chamber and heating the semiconductor substrate such that a stable dielectric layer is deposited; and

after depositing the second dielectric layer, forming a second electrode on the second dielectric layer without curing the second dielectric layer prior to or during the formation of the second electrode.

2. (Original) The method as claimed in claim 1, wherein the first dielectric layer is deposited using only a source gas without a reactant gas.

3. (Original) The method as claimed in claim 1, wherein the first dielectric layer and the second dielectric layer are deposited using chemical vapor deposition.

4. (Original) The method as claimed in claim 1, wherein the first dielectric layer and the second dielectric layer are deposited using atomic layer deposition.

5. (Original) The method as claimed in claim 1, wherein the source gas includes oxygen atoms.

6. (Original) The method as claimed in claim 1, wherein the first dielectric layer and the second dielectric layer are deposited at a temperature of 100 to 600 °C.

7. (Original) The method as claimed in claim 1, wherein the first dielectric layer is deposited to a thickness of 5 to 200 Å, and the second dielectric layer is deposited to a thickness of 5 to 3000 Å.

8. (Original) The method as claimed in claim 1, wherein the source gas is one of $Ta(OC_2H_5)_5$, tetra ethoxide tantalum-dimethyl amine ethoxide, $Ta(OsBu)_5$, $Ta(OC_2H_5)_4(acacC_2H_5)$, $TaCl_2(OC_2H_5)_2C_5H_7O_2$, and $Ta(OCH_3)_5$.

9. (Original) The method as claimed in claim 1, wherein the first dielectric layer is formed of Ta_2O_5 using chemical vapor deposition.

10. (Original) The method as claimed in claim 1, wherein the second dielectric layer is formed of Ta_2O_5 using chemical vapor deposition.

11. (Original) The method as claimed in claim 1, wherein steps from depositing the first dielectric layer to depositing the second dielectric layer are performed in-situ in a single apparatus for forming dielectric layers.

12. (Original) The method as claimed in claim 1, wherein the atmosphere containing oxygen is an oxidative atmosphere containing O_2 or O_3 .

13. (Original) The method as claimed in claim 1, wherein the atmosphere containing oxygen is electron cyclotron resonance or an RF plasma of one of O₂ and N₂O.

14. (Original) The method as claimed in claim 1, wherein the first electrode and the second electrode are formed of one of TiN, TaN, W, WN, Al, Cu, Ru, RuO₂, Pt, Ir, IrO₂, a doped polysilicon, and a combination thereof.

15. (Original) The method as claimed in claim 1, wherein the first dielectric layer and the second dielectric layer are formed of one of Ta₂O₅, HfO₂, ZrO₂, Al₂O₃, TiO₂, and a combination thereof.

16. (Currently Amended) A method of manufacturing a capacitor of a semiconductor device, the method comprising:

forming a first electrode on a semiconductor substrate;
depositing a first Ta₂O₅ layer on the first electrode;
curing the first Ta₂O₅ layer in an O₃ atmosphere;
depositing a second Ta₂O₅ layer on the cured first Ta₂O₅ layer using only Ta(OC₂H₅)₅ without a reactant gas, wherein depositing the second Ta₂O₅ layer includes introducing the semiconductor substrate into a deposition chamber, supplying only a source gas without a reactant gas to the deposition chamber and heating the semiconductor substrate such that a stable Ta₂O₅ layer is deposited; and

after depositing the second Ta₂O₅ layer, forming a second electrode on the second Ta₂O₅ layer without curing the second Ta₂O₅ layer prior to or during the formation of the second electrode.

17. (Original) The method as claimed in claim 16, wherein the first Ta₂O₅ layer is deposited using only Ta(OC₂H₅)₅ without a reactant gas.

18. (Original) The method as claimed in claim 16, wherein the first Ta₂O₅ layer and the second Ta₂O₅ layer are deposited using chemical vapor deposition.

19. (Cancelled)

20. (Cancelled)